National Park Service
U.S. Department of the Interior

Transportation Fact Sheet

Context Sensitive Solutions

Access to and within the National Park System has been a defining experience for generations of visitors.

The National Park Service (NPS) coordinates the planning and implementation of transportation systems that improve the visitor experience and care for national parks by:

- Preserving natural and cultural resources.
- Enhancing visitor safety and security.
- Protecting plant and animal species.
- Reducing congestion.
- Decreasing pollution.

NPS is committed to being a leader in pursuing strategies that can help make park units more enjoyable, cleaner, quieter, and more sustainable for present and future generations.

For more information, visit
nps.gov/transportation

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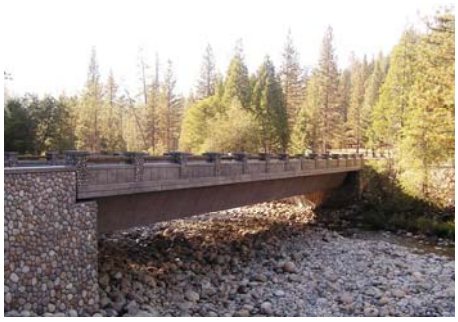
EXPERIENCE YOUR AMERICA

National park roads and parkways are outstanding design achievements that exemplify the harmonious integration of highway engineering and landscape architecture. This world-renowned system provides access to America's most treasured scenery while standing as a remarkable social, artistic and technological achievement in its own right.

What are Context Sensitive Solutions?
Context sensitive solutions (CSS) are a set of collaborative, interdisciplinary approaches to planning that ensures transportation facilities fit in well with their physical setting and preserve scenic, aesthetic, historic and environmental resources while maintaining safety and mobility. CSS is a method that considers the total context within which a transportation improvement project will exist.

A context sensitive approach to national park roads
Designers went to great lengths to make sure that park roads would "lie lightly on the land," impinging as little as possible on their natural and cultural surroundings. By designing roadways that employ graceful curves, naturalistic landscaping and attractive rustic features, the National Park Service is able to showcase its park scenery and most treasured resources.

Specific elements of context sensitive design
- Where roadside vegetation obstructs potentially appealing landscapes, trees are trimmed to create carefully calculated vistas.
- Hazardous "hair-pin" curves are eliminated wherever possible and most curves are eased to accommodate modern automobile traffic.
- Park road designers employ sophisticated strategies to showcase landscapes beyond the immediate road corridor.
- Where excavations are unavoidable, park road builders do their best to minimize disruptions and rehabilitate areas disturbed during the construction process.
- Whenever possible, local rock is used for the crushed-stone component of park road pavements, to help roadways blend with their surroundings.

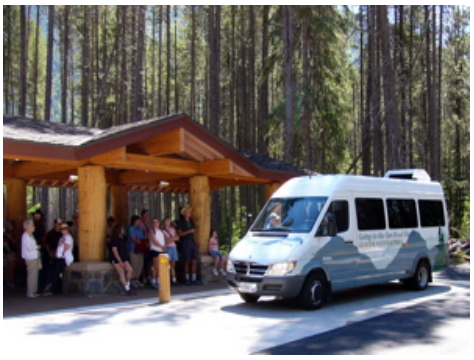


The South Fork Bridge over the Merced River in Yosemite National Park in California was reconstructed to provide safe vehicle access, restore a more natural flow to the river, and retain the aesthetic qualities of the original bridge built in 1931.

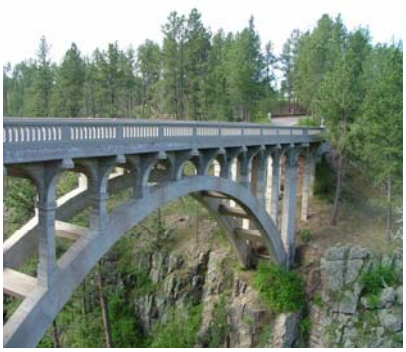
Context sensitive solutions

Classic park roads reflect the efforts of generations of engineers, landscape architects, and park administrators. The preservation and improvement of these roads today reflects a longstanding tradition of merging modern engineering with the natural and cultural landscape. The projects below highlight just some of the many techniques in use today.

Glacier National Park in Montana



Constructed in the 1920s and 1930s and hailed as an engineering marvel, the Going-to-the-Sun Road is undergoing an extensive rehabilitation effort that will retain its historic character and visual appeal. New avalanche-resistant guard walls, for example, are finished with historically compatible stonemasonry facing. Another key component is a new transit system that gives visitors the option of leaving their cars at one of two transit centers designed to meld with the existing landscape. The shuttle system has reduced traffic on the overburdened road that has welcomed almost 500,000 vehicles each year during Glacier's peak visitor season from June to October.



Wind Cave National Park in South Dakota

In 2003, NPS began work on improvements to State Highway 87. Bridge improvements addressed structural integrity, travel surfaces and guardrails. NPS used a multidisciplinary design process to address artistic, historical, and environmental concerns, which resulted in the preservation of the bridges while incorporating current design and safety features. The original bridge abutments and piers remained untouched. A slight adjustment to the northern alignment of the roadway was made by extending the centerline of the approach roadway and excavating protruding bedrock in a manner to maintain the natural stone appearance.

Cumberland Gap National Historic Park in Kentucky and Tennessee

The Cumberland Gap Tunnel project is a massive design and construction task combining many areas of engineering expertise with innovative construction techniques - one of the Federal Highway Administration's and National Park Service's most challenging projects to date. It includes the construction of a pair of 4600-foot-long, two-lane tunnels through solid rock and rerouting a major highway to enable the restoration of the area to resemble as closely as possible the path used by the pioneers of the late 1700's - all while adhering to ongoing concerns of safety and the Gap's unique environment.

Yellowstone National Park in Wyoming

Rehabilitating a 10-mile segment of the Grand Loop Road Historic District meant addressing the need to widen the road, originally built for Model T's, while minimizing any impact to park resources. Topsoil was conserved along the slopes, thus easily allowing for replacement of the topsoil in the location where it was removed. Park-wide night lighting design has also been nationally recognized with five night sky sensitive fixtures meeting the International Dark Sky criterion for design.